Learning Management Systems (LMS)

PHIN

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Colleen Monahan and Freddy Guime
University of Illinois at Chicago
School of Public Health
Center for the Advancement of Distance Education

The Changing Face of Continuing Education and Training

The line between continuing education and for-credit (college-based) education is becoming blurred as colleges and universities search for sources of income.

We are beginning to see “everyone” (e.g., even Universities that didn’t give it much credit) enter the continuing education arena AND pay it some attention.

Because colleges and universities are increasing their production of CE courses they are becoming more accessible/relevant to the workforce.

The Changing Face of Continuing Education and Training

Competency development related to fields and job roles became critical when bioterrorism preparedness became a national issue…followed by a lot of funding.

Public Health Ready (NACCHO)

- Criteria for LHD Certification
  - Workers Prepared
  - Agency Plan (including training plan)
  - Exercises (After Action Plan informs training plan)
- 12 Pilot Sites IN 2003
  - One in Illinois (Winnebago County/Rockford)
  - 7 pilot sites using UIC online assessment
- Great expansion to whole states in 2004-05

National Impetus in Public Health

CDC **Cooperative Agreement on Public Health Preparedness and Response for Bioterrorism**

Focus Area G: Education and Training

"To ensure the delivery of appropriate education and training to key public health professionals……."

"Implement a learning management system capable of collecting and reporting data on all training and educational activities as well as sharing "best practices" with other public health agencies. "

National Impetus in Public Health

Bottom line

Every State health department must have a learning management system.

Learning Management Systems (LMS)

What is a LMS?

- Provides education to public health workforce related to their roles and needs
- Promotes worker competencies
- Associates competencies to worker roles
- Assesses workers and competencies related to roles
- Recommends appropriate courses based on assessments
- Stores competency progress and course history for each learner

Learning Management Systems (LMS)

Roles? (those recommended by Columbia U.)

- Public Health Leaders
- Public Health Clinical Staff
- Public Health Communicable Disease Staff
- Environmental Health Staff
- Public Health Laboratory Staff
- Medical Examiner/Coroner
- Public Health Information Staff
- Other Public Health Professional Staff
- Public Health Technical and Support Staff

Learning Management Systems (LMS)

Competencies? (example in epidemiology)

- Describe applied epidemiology, including its unique and important features, to general audiences.
- Apply and interpret commonly used measures of frequency.
- Apply and interpret measures of central location and dispersion.
- Organize and present epidemiological data to various audiences.
- Describe the purposes and important features of public health surveillance.
- Participate in the various steps involved with investigating an outbreak.

Learning Management Systems (LMS)

Sources of Competencies

- Bioterrorism Preparedness
  (Columbia University School of Nursing Center for Health Policy)

- Core Public Health Competencies
  (Council on Linkages between Academia and Public Health Practice)

Learning Management Systems (LMS)

Assesses workers?

Core Competencies : Applied Epidemiology (Total: 6)	
Competency	**Level of Confidence** **A=Not Confident, E=Very Confident**
Describe applied epidemiology, including its unique and important features, to general audiences. (history) (More info)	A B C D E
Apply and interpret commonly used measures of frequency. (history) (More info)	A B C D E
Apply and interpret measures of central location and dispersion. (history) (More info)	A B C D E
Organize and present epidemiological data to various audiences. (history) (More info)	A B C D E
Describe the purposes and important features of public health surveillance. (history) (More info)	A B C D E
Participate in the various steps involved with investigating an outbreak. (history) (More info)	A B C D E

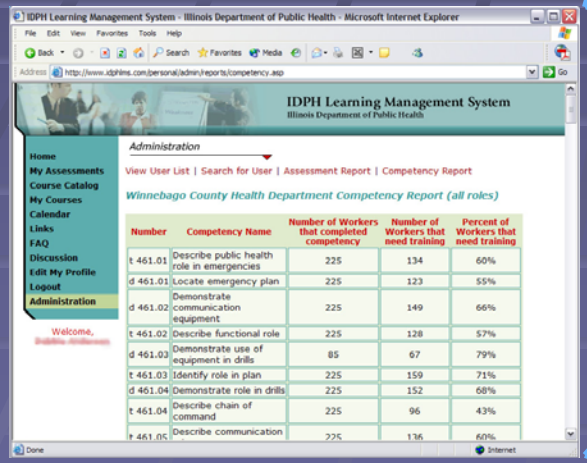
Learning Management Systems (LMS)

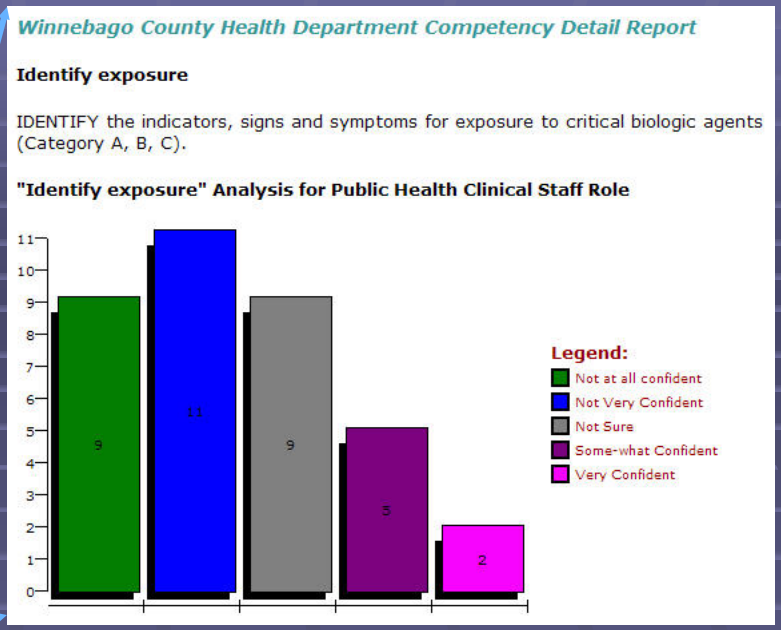
Recommends appropriate courses?

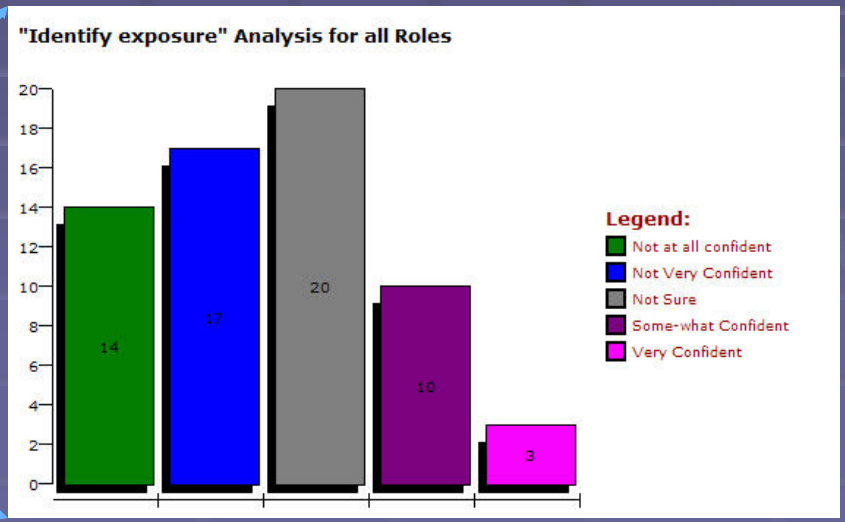
Applied Epidemiology (Total: 6)

Competency	Level of Confidence A=Not Confident, E=Very Confident	Recommended Courses
Describe applied epidemiology, including its unique and important features, to general audiences. (history)	Very Confident Somewhat Confident Not Sure Not Very Confident Not at All Confident	• PH 491 What Is Applied Epidemiology?
Apply and interpret commonly used measures of frequency. (history)	Very Confident Somewhat Confident Not Sure Not Very Confident Not at All Confident	See the course catalog if you're interested in course(s) relevant to this competency.
Apply and interpret measures of central location and dispersion. (history)	Very Confident Somewhat Confident Not Sure Not Very Confident Not at All Confident	• PH 493 Measures of Central Location and Dispersion • UNC 493a Confidence Intervals and Significance Tests • UNC 493b Proportions and Means • UNC 493c Two Way Tables and ANOVA • UNC 493d Introduction to Linear Regression

Competency Report







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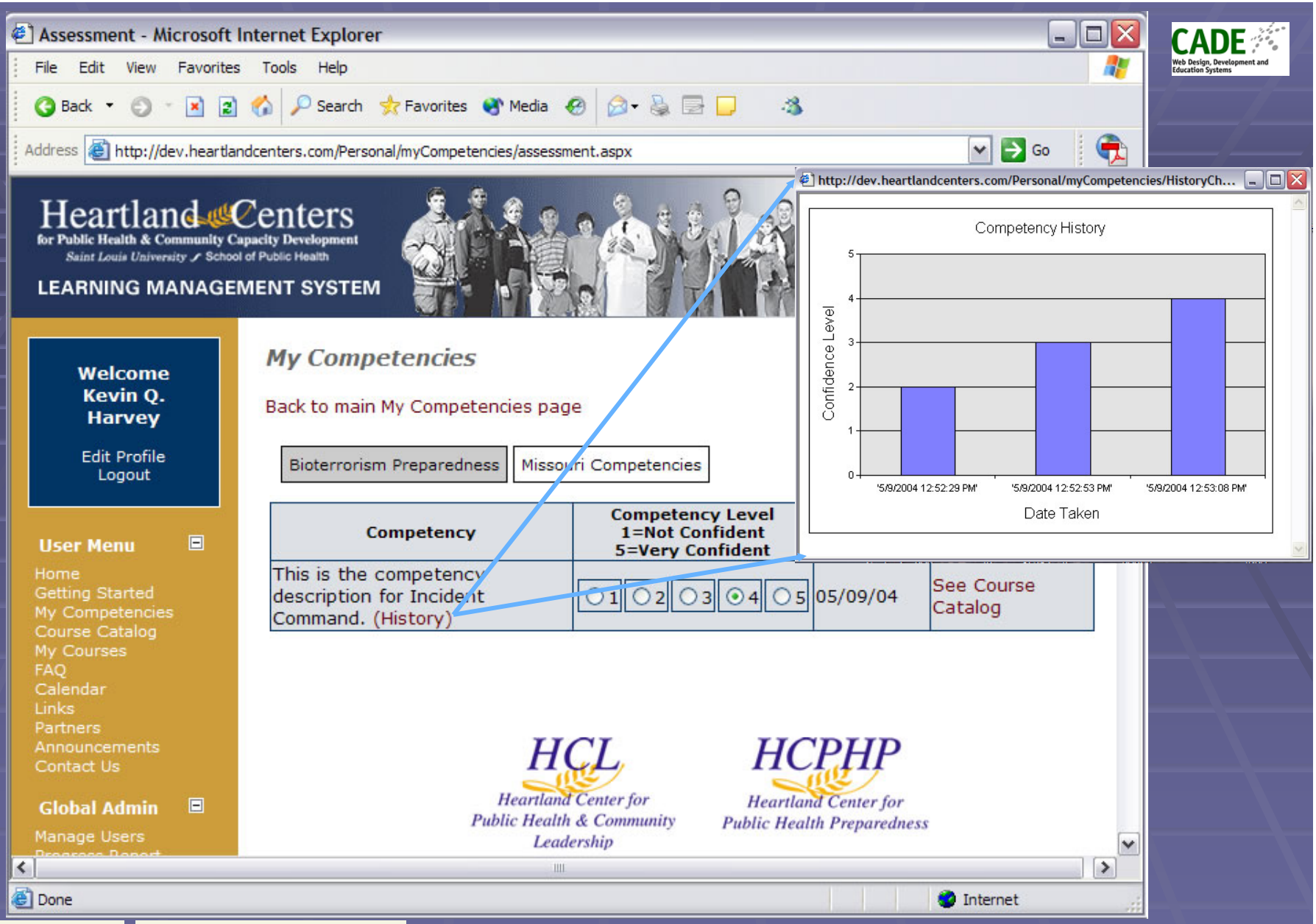
Next:: Assessment Report



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Next:: Competency Report

Learning Management Systems (LMS)

Course History?

Completed Courses

Course	Date Certified	Get Certificate
PH 416 Public Health Infrastructure	Friday, December 12, 2003	Get Certificate
PH 424 Community Risk and Protective Factors	Wednesday, January 14, 2004	Get Certificate
PH 452 Public Health Organizations	Thursday, September 04, 2003	Get Certificate
PH 462 Bioterrorism Preparedness and Response	Tuesday, December 16, 2003	Get Certificate

Features of a Learning Management System

- combination of **web-based software applications** in which **learning content is delivered and managed**
- addresses **online and offline training**, **administration** and **performance management**
- includes functionality for **course catalogs, launching courses, registering students, tracking student progress and assessments,** and **creating reports**
- has a **front-end for the learner** and a **back-end for administrators and instructors**

Features of a Learning Management System

- allows for competency-driven assessment and course associations
- integrates online quizzing and evaluation processes, permitting accurate, automated measurement and reporting.
- permits centralized course and learner administration to better meet agency objectives
- designed, developed, and customized specifically for public health learners

Learning Management Systems (LMS)

How are LMS's used by State and local health practitioners?

- meet grant requirements (e.g., CDC Focus Area G in bioterrorism preparedness)
- track overall workforce assessment, training and certification
- track training provided by contractors
- allow local health departments to manage their own staff training
- Allow the development of a training plan (required by some funding initiatives)

Using competencies as measures of worker and workforce preparedness

- State public health level
  - Demonstrates workforce preparedness to the state government, public, media, and external funding sources (CDC)
  - Document local and statewide PH preparedness in measurable terms

- Local public health level
  - Demonstrates preparedness to Board of Health, local government, public, media, grant providers
  - Quantifiable and meaningful reports to State for statewide preparedness
  - Establishes a professional career pathway for public health personnel

Learning Management Systems

All of this information can help State and Local Health Departments develop a training plans

- Identify competency needs, courses taken, competencies achieved by:
  - Local health departments/individual workers
  - Geography (County or Public health regions)
  - Public health roles
- Identify new training courses needed

LMS's We Have Developed

UIC-SPH

http://www.cadelms.org

Illinois Public Health Preparedness Center

Illinois Department of Public Health

Chicago Department of Public Health

Mid-America Public Health Training Center

Iowa Department of Public Health

Iowa Center for Public Health Preparedness

Missouri Department of Health and Senior Services

St. Louis University Center for Public Health Preparedness

Indiana State Department of Health

South Dakota (coming)

Approaches for Recognizing Competency

- Certificate Programs (based on completing several courses)
- Continuing Education Units (e.g., CNE, CME, etc.)
- Independent Credentialing Bodies (using same competency framework)
  - Public Health Administrators
  - Emergency Response Coordinators
  - Public Health Ready (NACCHO)

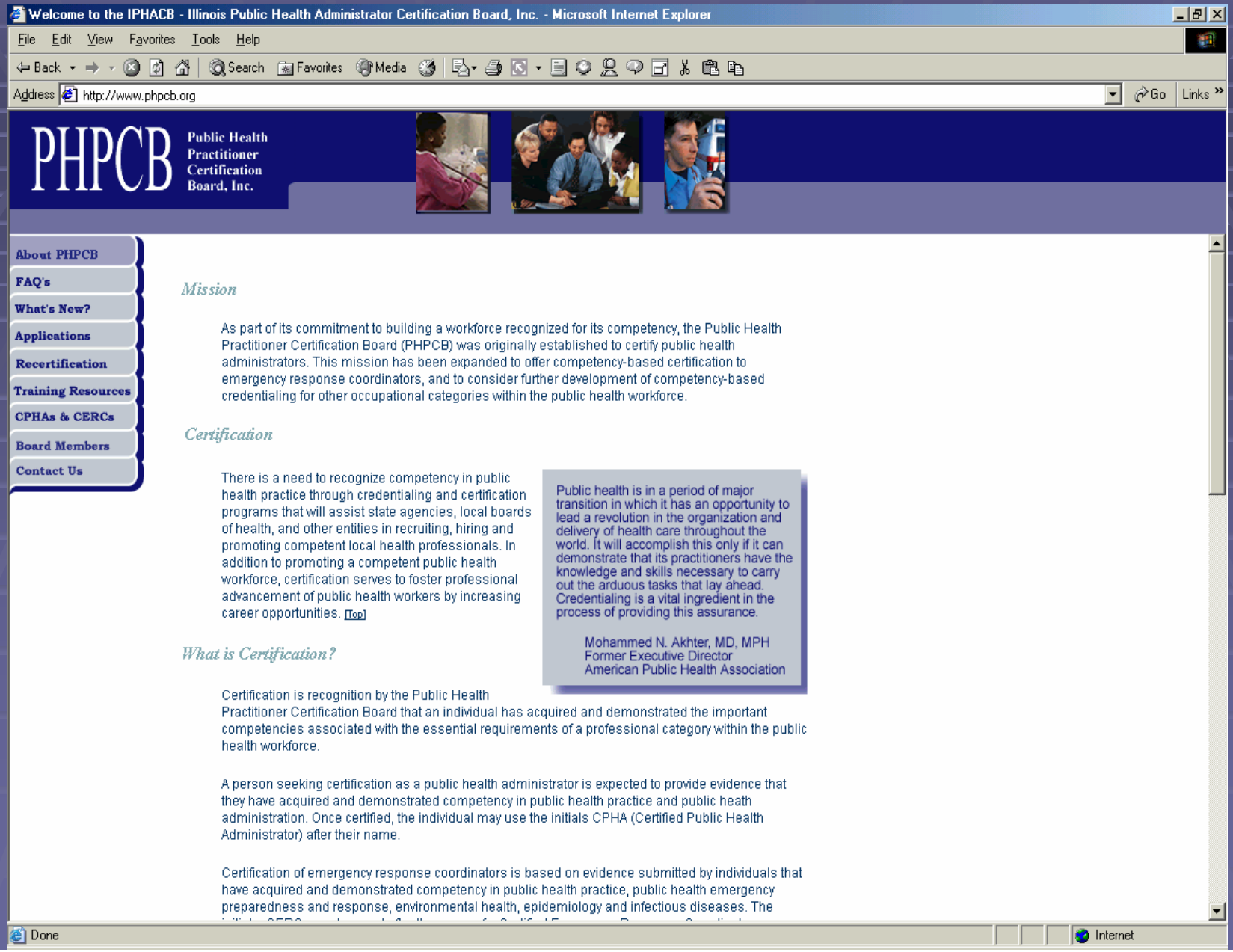
Public Health Practitioner Certification Board (www.phpcb.org)

- Independent, not-for-profit entity established by IPHA, IPHAA, IABOH
- 6 Board Members plus non-voting state liaisons (IL, MO, KS, …) representing states participating in the process
- IDPH requested that the Certification Board develop a similar program to certify emergency response coordinators (2003)

Certified Emergency Response Coordinator Application

- Online application
- Applicant provides basic identifying information and evidence of having demonstrated or attained each competency in the 8 categories (total competencies = 54)
  - Evidence can be derived from education and training OR from work experiences
  - Designated attesters also submit information online

http://www.phpcb.org/



Applicant: Fake Student

Application Process	Review Your Application
Welcome	View Completed Application And Submit For Review
View/Edit Cover Sheet Information	Application Status
Experiential Evidence Forms	Print Completed Application
Academic Evidence Forms	

Experiential Evidence

View Competency Through Experience Forms: Select

Steps To Document Experiential Evidence

The documentation verifying your competency-based experience should be completed by attester(s) (people who can attest to your competencies). The application requires that you do the following:

1. You should contact your attesters to ask them a) if they will attest to your competency-based experience and b) whether they would prefer to complete the forms with or without specific examples provided by you.
2. For each attester, click "Add Attester" and complete the information form.
3. If the attester wants specific examples provided by you, then pre-fill the forms (by clicking "Pre-fill") before you send them to the attester. (The attester may accept, edit and/or add examples of your experience).
4. When you are ready to send the forms to the attester, click "Send Email." You may add a personal message at this point.
5. Once the attester has completed and submitted the forms for one or more competency area, it will be marked on your website as complete. At this point, you may click on the competency area to view the completed attester form. You cannot edit this.
6. You have the option to include an attester's completed forms in your application for review. You may delete the attester and their evidence completely by clicking "Delete."
7. If the attester has not submitted the requested forms, please contact them via the "Send Email" button.

Add Attester

Name	Phone	Competency Areas	Send Email	Edit Contact	Delete

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7. If the attester has not submitted the requested forms, please contact them via the "Send Email" button.

Add Attester

Name	Phone	Competency Areas	Send Email (Email History)	Edit Contact Info	Delete Attester
Lin, William	312-413-0061		Send Email	Edit	Delete

Competency Areas - View All		Completed
PUBLIC HEALTH PRACTICE	Modify	No
COMMUNITY HEALTH ASSESSMENT	Prefill	No
PUBLIC HEALTH POLICY, ADVOCACY & LAW	Prefill	No
PROGRAM DEVELOPMENT & EVALUATION	Prefill	No
PUBLIC HEALTH EMERGENCY PREPAREDNESS & RESPONSE	Prefill	No
ENVIRONMENTAL HEALTH	Prefill	No
APPLIED EPIDEMIOLOGY	Prefill	No
INFECTIOUS DISEASE PREPAREDNESS & RESPONSE	Prefill	No

Competency Categories for CPHAs and CERCs

Public Health Administrators

- Public Health Practice
- Community Health Assessment
- Public Health Policy, Advocacy, and Law
- Program Development and Evaluation

- Public Health Administration

Emergency Response Coordinators

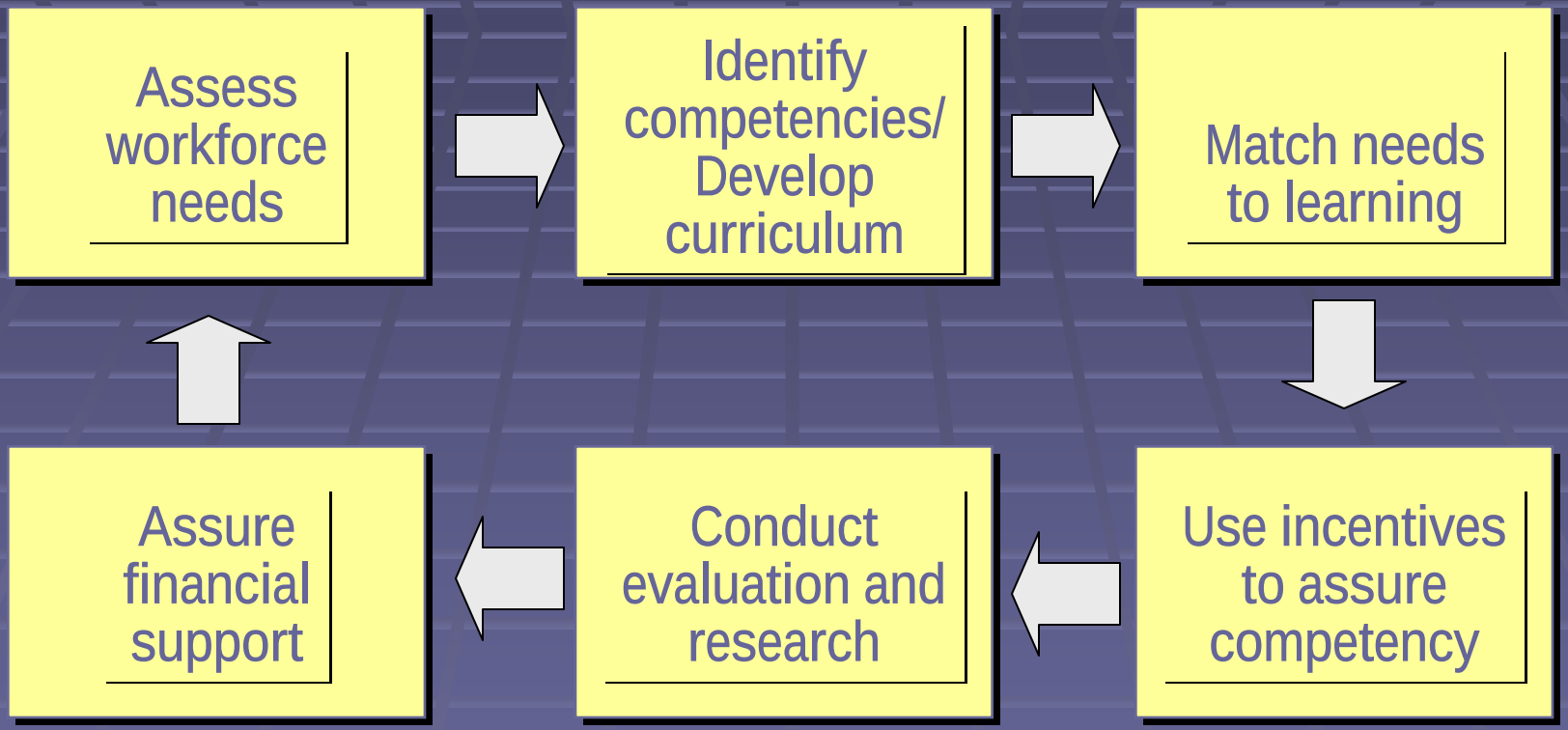
- Public Health Practice
- Community Health Assessment
- Public Health Policy, Advocacy, and Law
- Program Development and Evaluation

- PH Emergency Preparedness & Response
- Environmental Health
- Applied Epidemiology
- Infectious Disease Preparedness & Response

Certification
Early Lessons – Implications

- Systems need time and sustained support
- Preparedness is largely local
- Federal leadership is essential
- Resource commitments for 5 or more years needed
- Current efforts are federal/state centric
- Operationalize and expect preparedness; coordinate with HRSA, DHS, and other Federal Agencies

Strategic Elements for Public Health Workforce Development



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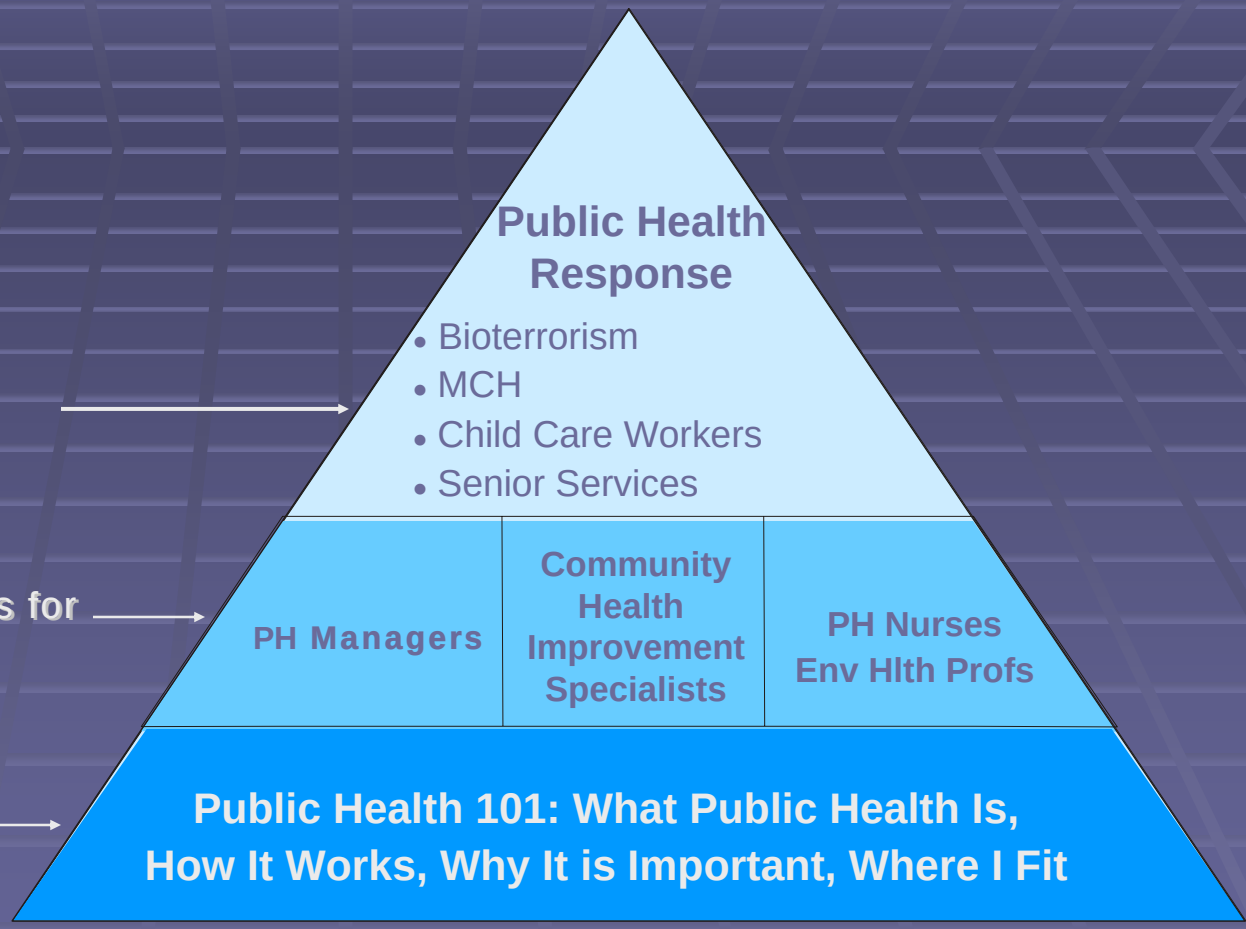
Public Health Training Pyramid



Specialized Training for Specific Groups

Cross Cutting Competencies for PH Core Functions

Basic Orientation and Acculturation to Public Health for all PH Workers

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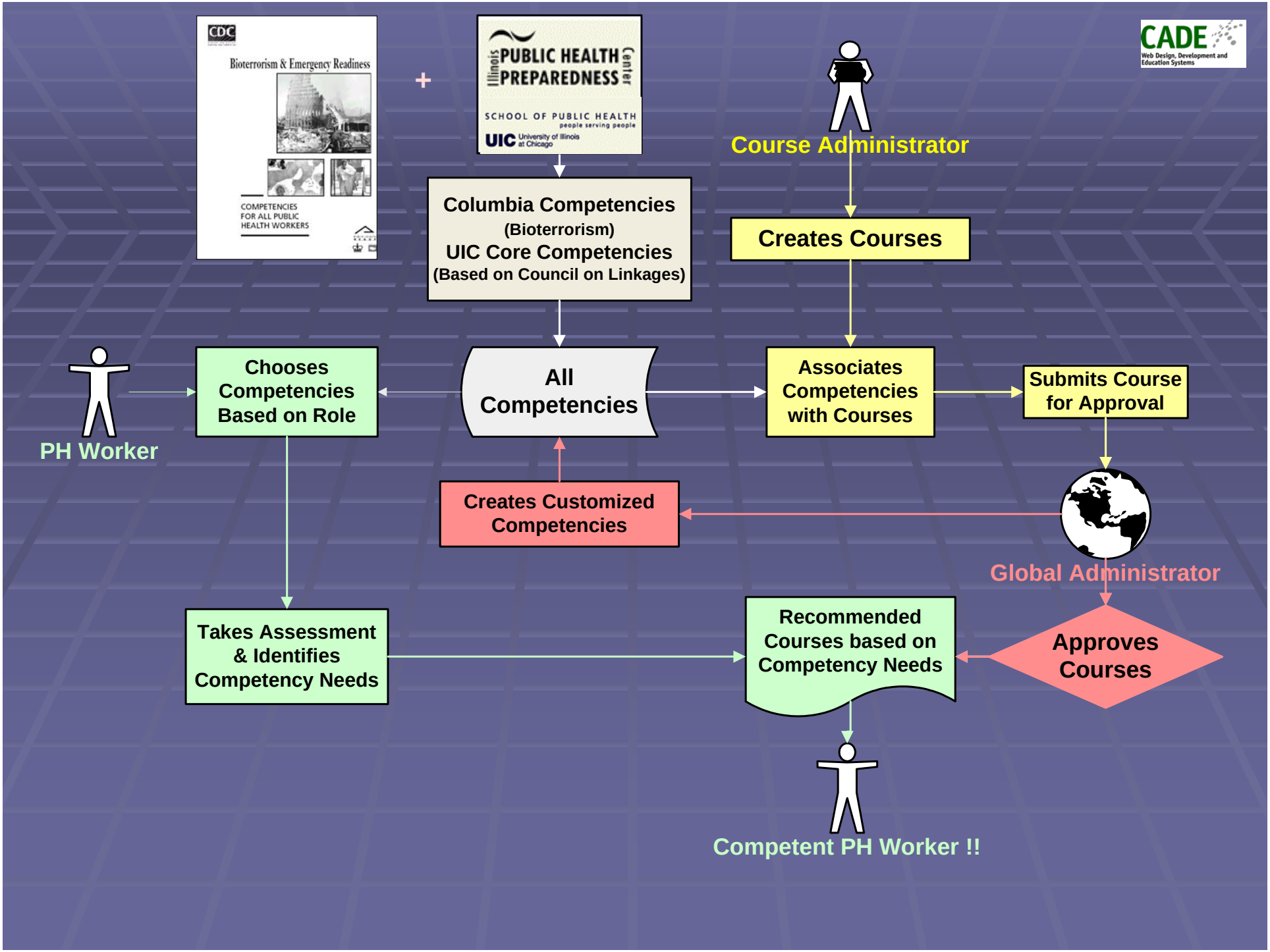
LMS & Public Health Workforce Development

1 – Assess Competency Using Consistent Methods and Tools.

2 – Enhance Specific Competencies Based on Assessment.

3 – Verify Competent Performance in Workplace via HR Management.

4 – Recognize Competent Performance via System Incentives


CDC
Bioterrorism & Emergency Readiness
COMPETENCIES FOR ALL PUBLIC HEALTH WORKERS
+
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CADE
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Course Administrator
Columbia Competencies
(Bioterrorism)
UIC Core Competencies
(Based on Council on Linkages)
Creates Courses
PH Worker
Chooses Competencies Based on Role
All Competencies
Associates Competencies with Courses
Submits Course for Approval
Creates Customized Competencies
Global Administrator
Takes Assessment & Identifies Competency Needs
Recommended Courses based on Competency Needs
Approves Courses
Competent PH Worker !!

Review of Systems

Example Open Systems:

Illinois Public Health Preparedness Center

(example of academic course provider)

http://www.uic.edu/sph/prepare

Iowa

http://www.prepareiowa.com

St. Louis University

http://www.heartlandcenters.com

Learning Management Systems (LMS)

PHIN Conference

Freddy Guime

University of Illinois at Chicago
School of Public Health
Center for the Advancement of Distance Education

Illinois Department of Public Health Assessment Report

Local Health Department Name	Number Of Workers	Registered in LMS	Workers Assessed	% Complete (Registered)	% Complete (All)
Adams County Health Department	51	51	51	100.00%	100.00%
Bond County Health Department	11	11	10	90.91%	90.91%
Boone County Health Department	17	16	16	100.00%	94.12%
Brown County Health Department	6	6	6	100.00%	100.00%
Bureau County Health Department	25	19	19	100.00%	76.00%
Calhoun County Health Department	12	12	10	83.33%	83.33%

First Challenge

- How do you get 6000 people?
- That are not part of your organization
- Local Health Departments
- Accountable

Answer:

- Locals have certain admin access to the Learning System
- Add/Modify/Delete public health workers
- Run Reports On people missing their assessment
- State gets total numbers
- CDC gets accurate report!

Second Challenge

- Integrate with current Learning Tools (Blackboard, WebCT, LearningSpace)
- Same Credentials between the LMS and Blackboard/WebCT)
- Synchronous Registration
- Single Sign-On

Answer

- Web Service (BlackBoard/WebCT)
- IMS Global Learning Consortium (http://www.imsglobal.org/)
- XML Standard
- Send Registrants
- LMS System Credential authority

Third Challenge

- LDAP Integration
- Single directory
- IDPH Integration

Answer:

- LDAP integration is best when is already established
- Late-bound LDAP Integration still possible, provided that you plan for it.

- Plan your LDAP Integrations

Current Innovations

- “Cross-Posting” Course?
  - Will Create new Credentials
  - Cannot track course automatically
  - Competencies addressed will not be identified
- “Share Course”
  - Don’t require creating new credentials
  - Have Competencies, allow certification
  - Never Left

Current Innovations

Share Courses

Course Name	Heartland Centers	UIC - Preparendess Center
BT-1 Principles of Epidemiology	☐ Share ☐ Seats (Leave blank for unlimited seats):	☐ Share ☐ Seats (Leave blank for unlimited seats):
HR-1 Basic Supervison	☐ Share ☐ Seats (Leave blank for unlimited seats):	☐ Share ☐ Seats (Leave blank for unlimited seats):

Current Innovations

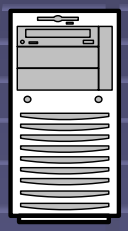
Outside Courses

Heartland Centers

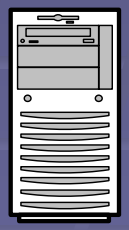
UIC - Preparendess Center

	Course Number	Course Name	Site	In Catalog
View	PH 416	Public Health Infrastructure	Prepare	○ Yes ◉ No
View	PH 417	Public Health Interventions	Prepare	○ Yes ◉ No
View	PH 461	What Is Public Health Emergency Preparedness & Response?	Prepare	○ Yes ◉ No
View	PH 462	Bioterrorism Preparedness & Response	Prepare	○ Yes ◉ No
View	PH 411	What Is Public Health?	Prepare	○ Yes ◉ No

Current Innovations



IDPH



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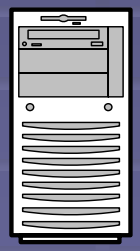
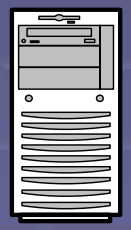


Course Sharing Service



Heartland Centers

New Horizons

- Course Catalog, Evaluation, Quiz, Meeting Manager
- Local Health Department, Course Administrator, Global Administrator
- Course Sharing

New Horizons

- Maintains Knowledge
- Where are the Experts?
- Experts in “what?”
- Contact Experts

Crisis Management

Crisis Management

Search for a Competency

Key Word Search: smallpox

Competency Type: All Types

Search

Name	Question	Level of Confidence
Smallpox Preparedness	Identify smallpox infections from signs, clinical history and other evidence, and collect timely data for prevention and control of an outbreak.	A B C D E
Other Bioterrorism Agents	Identifying infectious from Category A, B, and C biological agents (other than smallpox and anthrax) from signs, clinical history and other evidence, and collect timely data for prevention and control of an outbreak.	A B C D E

Crisis Management

James D. Stone, M.A. Sangamon County (Edwardsville Region)

2501 North Dirksen Parkway, Springfield, Illinois 62702 Telephone: (217) 111-1111 Fax: (217) 222-2222

Name	Email	Phone
Joe James	joe@sang.com	
Peter Drucker	pete@co.sang.com	
Linda Goodman	Goodman@co.sangamon.il.us	
Fred Stein	stein@co.sangamon.il.us	

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Q & A

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